

**Callidus**  
We protect your merchandise



**presentation**

## Why Callidus?

- We are the premier European innovator of Electronic Article Surveillance systems (EAS) and we have produced more than 150 000 units of Acousto-Magnetic (AM) and Radio-Frequency (RF) EAS systems during our 22 years of operation.
- During 2022 Callidus delivered 13200 EAS systems.
- We have the largest in-house production and R&D center in EUROPE with head quarters in Ostrava, Czech Republic.
- Our development and production center has more than 4000 m2 of production area and 1000 m2 of development laboratory. More than 60 employees with at least 10 full time development engineers.
- Practically all of the EAS production processes are remote controlled and monitored which resulted to a significant increase in production speed and substantial reduction in product costs.
- Patented metal and magnet detection, AM jammer detection and booster bag detection (BB), AM jammers and people counters (PC) was launched on 15th June 2010 in the USA.
- We have the widest range of EAS product offerings.
  - Excellent AM detection (up to 245 cm for AM DR labels, up to 365 cm for large AM hard tags) .
  - World wide best AM detection on metal surfaces.
  - Excellent RF detection (up to 200 cm for 40x40 mm RF labels).
  - Worldwide first and the only AM/RF hybrid detection.
  - Build in jammer detection / Booster Bag detection.
  - LED backlight advertisement, EAS RF or AM pedestal.
  - Worldwide first concealed AM grocery solution.
  - Remote support and maintenance of EAS solutions.
  - Smart system learning and prevention of false alarms
  - Proven reliability with 99.99% uptime.
- Experienced with numerous retailers ranging from single to multiple worldwide chain of retail stores including custom made solutions.
- Short return on investment and low maintenance cost, most service calls are remotely accessible.
- We display our products in globally known exhibitions and conferences the most current of which are the EuroShop 2023.



# Illustration showcase range of our products



## EAS SYSTEM - CUSTOMIZED

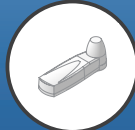
RF system is in-built into vitrine.

**STICKER LABEL**  
AM „DR“ sticker label that is deactivated at the cash register.



## HARD TAG

That is attached on goods with pin.



## EAS SYSTEM - AM DOOR

It is installed on the door frame entrance into shop.



## AM SYSTEM EAS

It is installed near the exit/entrance into the shop or next the cash registers.



## DEACTIVATOR + DETACHER

Deactivates sticker labels or detach the hard tags.

## CHECKOUT SYSTEM

It is installed directly on the cash register.



## SHOPMONITOR LITE

Shopmonitor LITE allows on-line overview about alarms and other events.



## HAND DETECTOR or HAND DETECTOR-DEACTIVATOR

Hand detector is used by security to search labels.



## PA450 AM and RF digital security system

- Great detection – AM version can secure up to 240 cm / 7.87 ft. of detection with an option of built-in RFID technology.
- LED-backlit advertisement-capable antenna with remote-controlled brightness and flash sequence of lighting. Changing graphic posters are very easy and can be done within a few seconds without the need for any tool.
- Available in a wide range of technologies: RF MONO, RF DUAL, AM MONO, AM DUAL.
- Remote system administration via the internet ensures minimal operating expense.
- Steel base and plastic bumper protects the system from damage caused by shopping carts.
- Optional data collection, analysis and presentation is available using local ShopMonitor Lite server system.
- Extreme energy savings solution - the system can be programmed to operate only during store working hours.



## CTDR250 AM digital security system

- Great detection - can secure up to 200 cm/ 6.56 ft. of AM DR label detection.
- A very slim system that aesthetically blends to the store's interior. It can be mounted on the doorjamb or walls of the store.
- Built-in IR sensors allow monitoring of store traffic and provide acoustic indication of customer's entry.
- Remote administration via the internet ensures minimal operating expense.
- Optional data collection, analysis and presentation is available using local ShopMonitor Lite Server system.
- Built-in detection of AM jammers.
- Programmable audible alarm based on the direction of customer's movement.
- Extreme energy savings solution - the system can be programmed to operate only during store working hours.



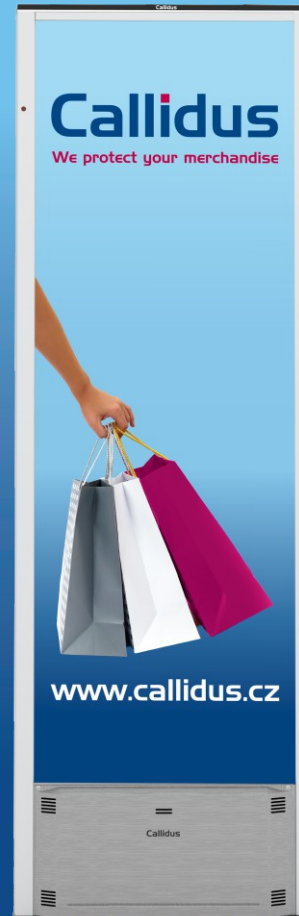
## CPP+ 380 AM and RF EAS systems

- Excellent AM detection (up to 245 cm for AM DR labels, up to 365 cm for large AM hard tags) World wide best AM detection on metal surfaces
- Excellent RF detection (up to 200 cm for 40x40 mm RF labels)
- Network connection, remote tuning and management
- Buzzer and RGB alarm lights
- MQTT and REST API accessible
- Advanced SW features (tag-too-close, adaptive sensitivity adjustment, etc.)
- People counting and alarm validation
- Build-in AM jamming detection
- Silver or black colors available
- Optional aluminum foil bag (booster bag) and/or permanent magnet detection
- Different alarm types settings (incoming, outgoing, etc.)
- Energy efficient - about 20W power consumption
- Easy to use ShopMonitor Lite Dashboard for alarm event management



## CPP+ 540 AM-RF hybrid EAS system

Worldwide first to produce AM/RF hybrid technology. Technology benefits are for both Grocery + Electronic gadget retailers. Excellent AM/RF detection, booster bags detection, and permanent magnets detection. Easy advertisement poster replacement, highest security level, highest protection flexibility, and lowest operation cost.



References - AM systems











## Customized EAS systems - globally unique solution

An international retailer of luxury fashion merchandise was not satisfied with their supplier of EAS systems, despite this company's claim that they were the biggest and the most qualified supplier of EAS systems. The main architect of the company requested almost invisible EAS system that requires 180-200 cm / 6.0-6.5 ft. detection range on a door with a massive steel frame.

They also required BBD and magnet detection. It was a difficult challenge but we accepted and successfully presented a working prototype within 9 months.

In 2010 we became the exclusive supplier of EAS systems for this client. From that time on we secured more than 100 stores. The pricing of our unique systems is similar to standard EAS systems but the functionality of CALLIDUS systems is significantly more advanced than our competitors.

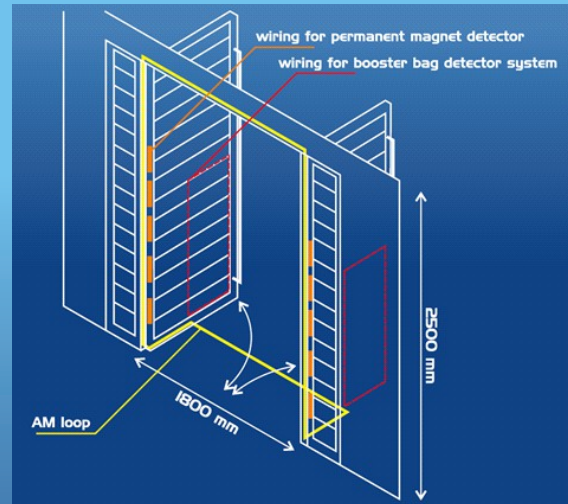


## Customized EAS System – Barbour

Towards the end of 2015 we faced another challenge where our long-time client requested a unique EAS system. We were asked to develop an invisible EAS system that would secure an entrance with 180 cm / 6.0 ft. wide wing door. The system should also allow ABD and magnet detection on top of the regular hard tag detection.

We conceptualized a solution that we installed in about 3 months. This unique solution of invisible AM EAS system with ABD and magnet detection was used and worked reliably in 4 of their stores. We do not know about any other company that offers this solution reliably.

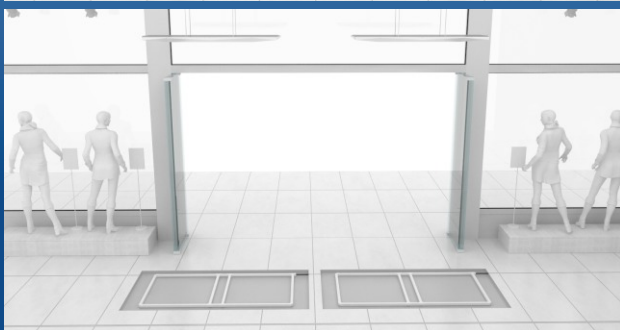
We were able to rise to the challenges and offer these systems, thanks to the great in-house facilities that we have. Normally, installation technicians are only equipped with typical installation tools and laptop. Our installation technician's equipment, support and facilities are on significantly higher level. This is because they are supported by a team of 6 electronic developers who found a solution in a few days. This was handed over to one of our 3 design engineers, who projected the solution in a few days by CAD system SolidWorks. The project was passed to our CAM specialist, whose task was to generate relevant data in software HSMWorks for CNC machines we have. As soon as the components were produced, we checked the functionality and reliability of our EAS system after which we could then install it at the store.



## New concept of supermarket security - hidden solution

We secured 350 stores in the Czech Republic for one of the leading supermarket chains in Europe. The reliability of our AS systems and the fact that the investment in our system pays for itself in an average of only 2 months make this valued client a very satisfied customer. With their customers in mind, this retailer is continuously improving their customers' experience, which is why they frequently remodel their store interiors and upgrade their EAS systems as well.

This customer remodelled all of their stores over a 5 year period and needed hidden EAS technology with discreet alarm indication for these new stores. This was a challenge we were happy to accept. After two months, we concluded that the AM EAS technology would consist of a ground antenna with a specially designed overhanging AM extender.



## ShopMonitor Lite

A software (web interface) that works in personal computer.

This software facilitates collection, analysis and transmission of data, gathered from the EAS system and other devices in the local store network.

The data gathered depend on specific configuration of the EAS system. For example: alarm statistics, identification of alarm type (alarm during entry, exit or false alarm) depending on state of IR sensors of people counter. It can also distinguish between alarm caused by detection of a hard tag or label, aluminum bag, permanent magnet or AM jammer, including deactivations with time stamp on all data.

A low cost system that does not require an expensive web server so the operation of the system is free of monthly charge. All the data are gathered from EAS devices inside the customer's store.



In September 2017 we enhanced the ShopMonitor Lite with new functionality - Alarm management. A Tablet device with ShopMonitor Lite can be placed at the exit/entrance of the shop. Immediately after the alarm is triggered, respective shop personnel will reach the tablet and authorize him with unique PIN number. The personnel need to indicate the type of alarm which are saved on a database of alarms that can later be used by shop management for analysis.

This function can also show if the type of theft involves a shop personnel. Similar to "sweethearting deals", the store personnel works with friends who fill up one or more bags with goods. When the friend goes through the EAS system and triggers the alarm, the store personnel quickly indicate alarm as "false". The trend of the cause of the alarms that will be shown on the report will point to the store personnel involved if that person always indicates a false alarm, making it advisable to verify his activities.



# RF and AM hand detectors and deactivators

Useful for checking some person after caught by the pedestals. Easy to check without touching someone or frisking. AM HD is an AM hand detector that is used only for AM tags/labels detection and AM HDD is an AM hand detector and deactivator which can be used for both detection and deactivation of the AM DR labels and detection of AM hard tags. Similarly, RF HD is an RF hand detector used for RF tags/labels detection. And RF HDD is an RF hand detector and deactivator used for both detection and deactivation of RF DR labels and detection of RF hard tags. RF HD and AM HD are light weighted devices, so it is easy for security staff to handle.



RF HD



AM HD



RF HDD



AM HDD



## Intelligent RF deactivators protects against internal theft by store personnel

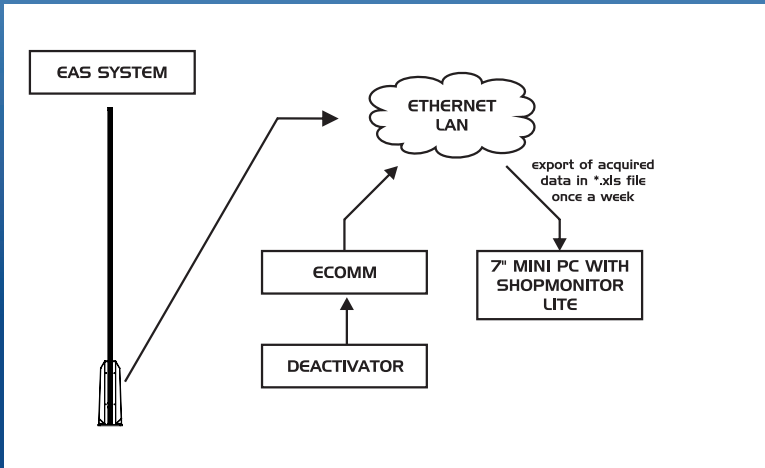
We have customized a solution for a major retail chain in the USA which has 1800 shops that sells a wide range of household goods. The problem was presented to us after some other companies tried to provide but failed to deliver a solution. A significant source of store loss may be attributed to internal theft by shop personnel. "Sweethearting deals" happen when a Customer fills up the whole shopping cart with goods and checks out with the "partner/sweetheart" cashier who deactivates all labels but charges only a portion of the value of the merchandise, usually the amount of the cheaper items only. Most of the more expensive items leave the shop without payment. Our intelligent deactivator transmits the information showing the number of deactivations with time stamp, while the local or cloud server tabulates and presents the store or chain-wide data in an analytics format. These data are compared by the retail security with items that were physically charged on the receipt. In case of inconsistency between the number of deactivations and

number of sold items, it is simply a matter of playing back the CCTV system recordings to confirm if the loss is internal or simply a case of erroneous transactions. Either way, the store internal losses can be minimized while increasing the efficiency of transactions. This also increases the productivity of the store security workers as they can do meaningful tasks instead of sorting through all the store receipts and comparing the details with the store inventory.

## Our intelligent AM deactivators are more efficient replacement to obsolete AM deactivators

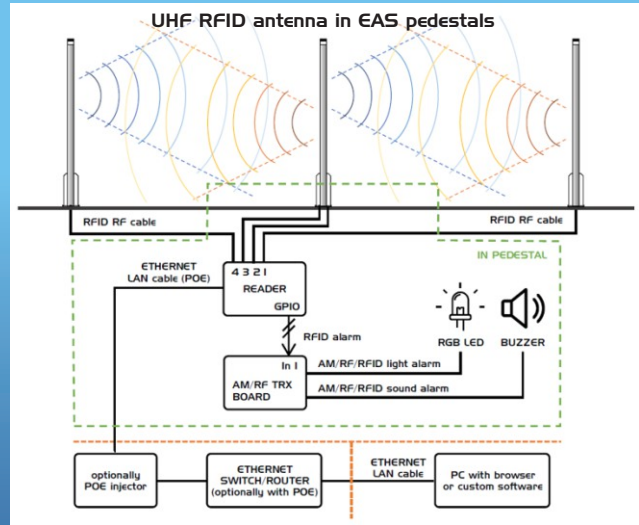
Most retail stores are equipped with EAS antennas and deactivators. Most of these EAS systems are not remotely adjustable and most possibly are now on the end-of-life if not already obsolete. The fact that these AM deactivators are usually installed by technician from professional company makes their replacement more expensive. Newer cash registers however have already prefabricated channels for installation of AM deactivation antennas. For the benefit of major retailers with thousands of AM deactivators that require quick replacement, we have modified our AM deactivator so it can be used as a replacement and will fit optimally, economically and effectively in these situations.

We have designed our AM deactivator antenna to fit the size and dimensions of existing AM deactivators in the stores, modified the firmware and equipped our AM deactivator control unit with a pushbutton for use to easily synchronize these deactivators with existing store EAS systems. We have already delivered 250 pcs of these modified AM deactivators and everything is working to specifications and as expected.

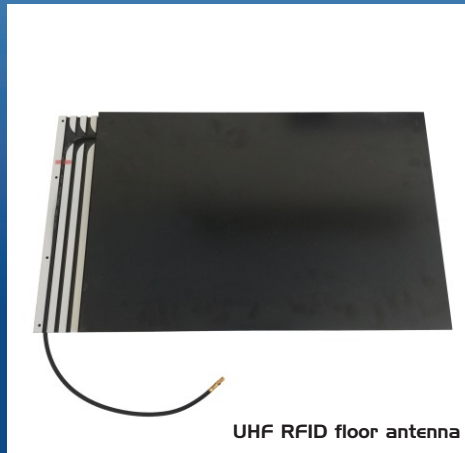


## UHF RFID technology

- UHF RFID antennae for integration into EAS pedestals
- UHF RFID antennae
  - UHF RFID ceiling antenna
  - UHF RFID 240x240 panel antenna
  - UHF RFID floor antenna
- UHF RFID POS solution
- Callidus 8 port UHF RFID reader Gen2



UHF RFID POS solution



UHF RFID floor antenna



UHF RFID ceiling and panel antennae

## Special RFID projects

AM TRX and UHF RFID floor concealed system



RFID in the Apple store



CPP+380 AM TRX, UHF RFID and camera EAS system



# AM systems EAS showcase and detection distances

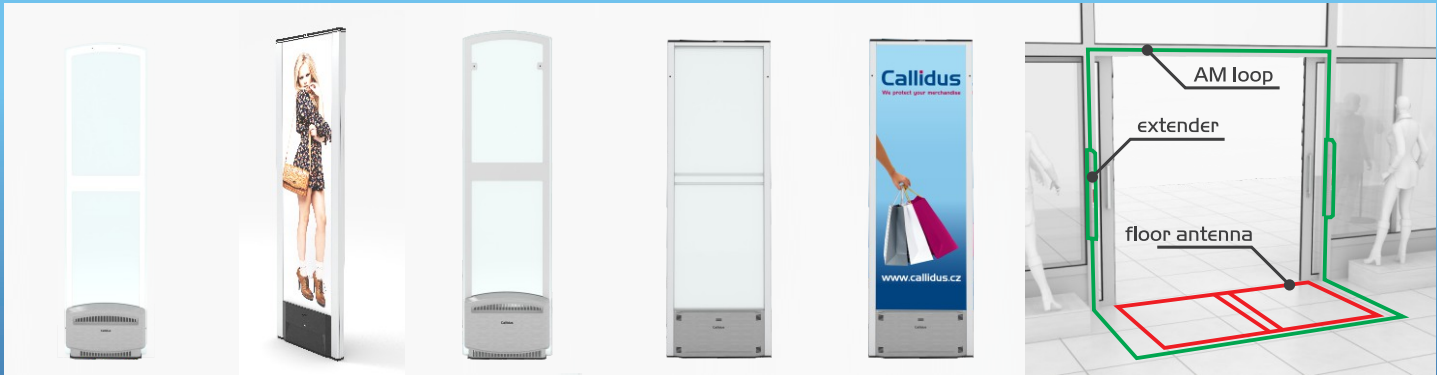
Example of detection with extender



Designs of AM EAS security system				CTDR320 lite	MPP 300 lite	CPP+ 300 lite	CPP+ 380
Type of AM security tag/label	Pictograph of AM security tag/label	Type of AM security system	TRX - TRX	100cm ↔ 220cm ↔ 100cm	100cm ↔ 220cm ↔ 100cm	100cm ↔ 220cm ↔ 100cm	100cm ↔ 245cm ↔ 100cm
			TX - RX	200cm	200cm	200cm	220cm
			TRX - TRX	120cm ↔ 260cm ↔ 120cm	120cm ↔ 260cm ↔ 120cm	120cm ↔ 260cm ↔ 120cm	120cm ↔ 285cm ↔ 120cm
			TX - RX	240cm	240cm	240cm	260cm
AM „DR“ sticker label Size 45x10mm		TRX - TRX	TRX - TRX	140cm ↔ 300cm ↔ 140cm	140cm ↔ 300cm ↔ 140cm	140cm ↔ 300cm ↔ 140cm	140cm ↔ 325cm ↔ 140cm
			TX - RX	280cm	280cm	280cm	300cm
AM small hard tag Size 45.7x18x8mm		TRX - TRX	TRX - TRX	160cm ↔ 340cm ↔ 160cm	160cm ↔ 340cm ↔ 160cm	160cm ↔ 340cm ↔ 160cm	160cm ↔ 365cm ↔ 160cm
			TX - RX	320cm	320cm	320cm	340cm
AM medium hard tag Size 53.3x19x15mm		TRX - TRX	TRX - TRX	160cm ↔ 340cm ↔ 160cm	160cm ↔ 340cm ↔ 160cm	160cm ↔ 340cm ↔ 160cm	160cm ↔ 365cm ↔ 160cm
			TX - RX	320cm	320cm	320cm	340cm
AM large hard tag Size 67.8x25.5x20mm		TRX - TRX	TRX - TRX	160cm ↔ 340cm ↔ 160cm	160cm ↔ 340cm ↔ 160cm	160cm ↔ 340cm ↔ 160cm	160cm ↔ 365cm ↔ 160cm
			TX - RX	320cm	320cm	320cm	340cm

## Determination of detection distance methodics

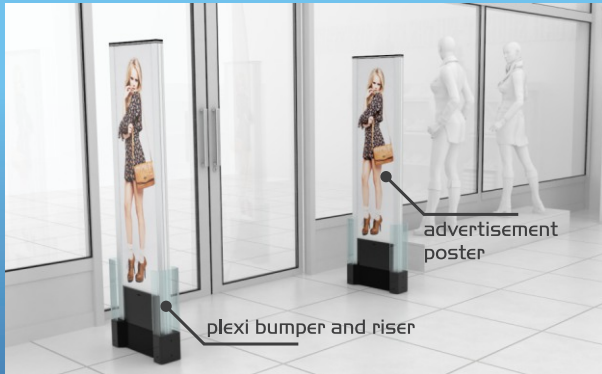
NOTE.: Detection distance depending on orientation and position of AM security tag/label. Noted detection distances are determined for worst orientation and position of tested AM security tag/label.



CT 400	PA450	CT450H	CPP+540	CPP+540 hybrid	LOOP	FLOOR

Amount and character of „environment interference” has impact on operation (detection distance) and reliability of EAS system. Noted detection distances were measured in environment with small value of „environment interference”. If you install system in highly interfere environment (typically shopping malls), we recommend to reduce „detection distance” about 10 up to 15 cm (this statement is very approximate and can vary in different places of installation, because it very depend on amount and character of neighboring interfere signals).

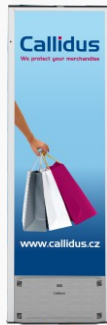
# RF systems EAS showcase and detection distances



Designs of RF EAS security system				CT 320	CT 320 passive	CPP+ 300L	CPP+ 300L passive
Type of RF security tag/label	Pictograph of RF security tag/label	Type of RF security system	RF TRX active - active/ active - passive	85 cm   170 cm   85 cm	85 cm   165 cm   80 cm <sup>P</sup>	85 cm   175 cm   85 cm	85 cm   170 cm   80 cm <sup>P</sup>
			RF TRX active - active/ active - passive	85 cm   175 cm   85 cm	85 cm   170 cm   80 cm <sup>P</sup>	90 cm   180 cm   90 cm	90 cm   175 cm   85 cm <sup>P</sup>
			RF TRX active - active/ active - passive	90 cm   180 cm   90 cm	90 cm   175 cm   85 cm <sup>P</sup>	90 cm   185 cm   90 cm	90 cm   180 cm   85 cm <sup>P</sup>
			RF TRX active - active/ active - passive	100 cm   200 cm   100 cm	100 cm   190 cm   90 cm <sup>P</sup>	100 cm   205 cm   100 cm	105 cm   200 cm   95 cm <sup>P</sup>
			RF TRX active - active/ active - passive	105 cm   210 cm   105 cm	105 cm   200 cm   95 cm <sup>P</sup>	105 cm   215 cm   105 cm	110 cm   210 cm   100 cm <sup>P</sup>
			RF TRX active - active/ active - passive				

## Determination of detection distance methodics

NOTE.: Detection distance depending on orientation and position of AM security tag/label. For more information please visit previous page.



CPP+380

CPP+380 passive

CT 450H

CPP+540 hybrid

90 cm | 185 cm | 90 cm

90 cm | 180 cm | 85 cm  
P

90 cm | 185 cm | 90 cm

90 cm | 180 cm | 90 cm

95 cm | 190 cm | 95 cm

95 cm | 185 cm | 90 cm  
P

95 cm | 190 cm | 95 cm

90 cm | 185 cm | 90 cm

100 cm | 200 cm | 100 cm

100 cm | 190 cm | 90 cm  
P

100 cm | 200 cm | 100 cm

95 cm | 195 cm | 95 cm

110 cm | 220 cm | 110 cm

110 cm | 210 cm | 100 cm  
P

110 cm | 220 cm | 110 cm

105 cm | 215 cm | 105 cm

115 cm | 230 cm | 115 cm

115 cm | 220 cm | 105 cm  
P

115 cm | 230 cm | 115 cm

110 cm | 220 cm | 110 cm

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